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(74) Agents: TRIPOLI, Joseph, S. et al.; THOMSON Licensing, Inc., 2 Independence Way, Suite 2, Princeton, NJ 08543 (US).

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(71) Applicant (for all designated States except US): THOMSON LICENSING S.A. [FR/FR]; 46 Quai A. Le Gallo, F-F-92648 Boulogne (FR).

(72) Inventor; and

(75) Inventor/Applicant (for US only): WILLIS, Donald, Henry [US/US]; 5175 East 74th Place, Indianapolis, IN 46250 (US).

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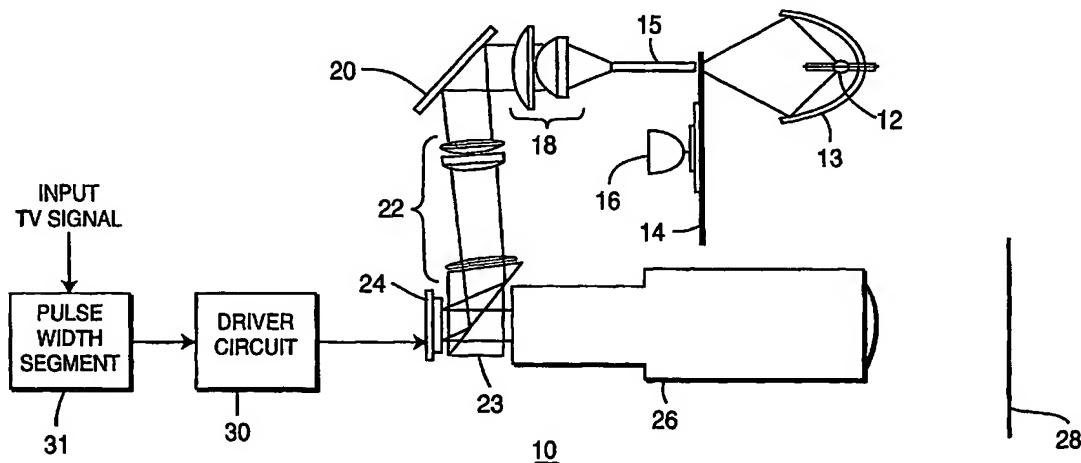
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(54) Title: PULSE WIDTH MODULATED DISPLAY WITH EQUALIZED PULSE WIDTH SEGMENTS



(57) Abstract: A field sequential pulse width modulated display system (10) comprises a digital micromirror device (DMD) (24) having a plurality of micromirrors that each selectively pivot to reflect light onto a screen (28) to illuminate a corresponding pixel. A driver circuit (30) controls the DMD (24) responsive to sequences of pulse width segments formed by a processor (31). The processor (31) alters the actuation state of at least one pulse in a first pulse width segment for a given color to alter the pixel brightness with a range lying between first and second pixel brightness boundaries. Further, the processor alters the actuation state of at least one pulse within at least one additional pulse width segment to alter the pixel brightness above the second brightness boundary to make nearly equal the total width of pulses becoming actuated within a segment to the total pulse width becoming de-actuated within the same segment to achieve an incremental change in brightness. Equalizing the weight of the total duration of actuated pulses to non-actuated pulses on a segment by segment basis serves to reduce motion artifacts attributable to light redistribution effects on intensity gradients.

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For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US03/21155

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : H04N 5/74, 9/12
US CL : 348/771, 743,760

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : Please See Continuation Sheet

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
EAST

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 6,362,835 B1 (URBANUS et al) 26 March 2002 (26.03.2002)), whole document.	1-5, 12
Y		6-11, 13-17
A	US 6,246,185 B1 (PARKS) 12 June 2001 (12.06.2001), whole document.	1-17
Y	US 6,108,053 A (PETTITT et al) 22 August 2000 (22.08.2000), whole document.	6-11, 13-17
Y	US 5,909,204 A (GALE et al) 01 June 1999 (01.06.1999), whole document.	6-11, 13-17

☐ Further documents are listed in the continuation of Box C.

☐ See patent family annex.

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Name and mailing address of the ISA/US

Mail Stop PCT, Attn: ISA/US
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Facsimile No. (703)305-3230

Authorized officer

Sherrie Hsia

Telephone No. (703) 305-4700

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Continuation of B. FIELDS SEARCHED Item 1:
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